SANTA CRUZ BIOTECHNOLOGY, INC.

ABHD5 (36A): sc-100468

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

α/β-hydrolase domains are characterized by a catalytic triad composed of a histidine, an acid and a nucleophile. ABHD5 (abhydrolase domain containing 5), also known as CGI-58, NCIE2 or CDS, is a 349 amino acid protein that contains an α/β-hydrolase domain through which it conveys catalytic function. Localized to the surface of lipid droplets, ABHD5 is widely expressed and interacts with Perilipin on the surface of lipid droplets where it facilitates lipolysis, the breakdown of fat. Defects in the gene encoding ABHD5 are the cause of Chanarin-Dorfman syndrome (CDS), an autosomal recessive inborn error of lipid metabolism with impaired long-chain fatty acid oxidation. CDS symptoms include congenital generalized ichthyosis, vacuolated leukocytes, hepatomegaly, myopathy, cataracts, neurosensory hearing loss and developmental delay.

CHROMOSOMAL LOCATION

Genetic locus: ABHD5 (human) mapping to 3p21.33; Abhd5 (mouse) mapping to 9 F4.

SOURCE

ABHD5 (36A) is a mouse monoclonal antibody raised against recombinant ABHD5 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ABHD5 (36A) is recommended for detection of ABHD5 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ABHD5 siRNA (h): sc-78146, ABHD5 siRNA (m): sc-140773, ABHD5 shRNA Plasmid (h): sc-78146-SH, ABHD5 shRNA Plasmid (m): sc-140773-SH, ABHD5 shRNA (h) Lentiviral Particles: sc-78146-V and ABHD5 shRNA (m) Lentiviral Particles: sc-140773-V.

Molecular Weight of ABHD5: 39 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, ABHD5 (h): 293 Lysate: sc-112234 or ABHD5 (m): 293T Lysate: sc-118168.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

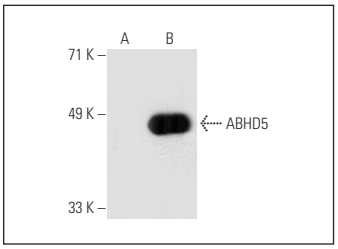
RESEARCH USE

For research use only, not for use in diagnostic procedures.

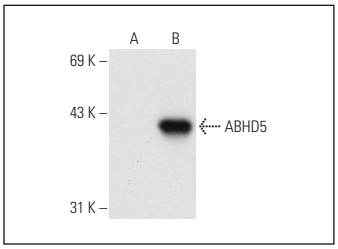
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



ABHD5 (36A): sc-100468. Western blot analysis of ABHD5 expression in non-transfected: sc-110760 (**A**) and human ABHD5 transfected: sc-112234 (**B**) 293 whole cell lysates.



ABHD5 (36A): sc-100468. Western blot analysis of ABHD5 expression in non-transfected: sc-117752 (**A**) and mouse ABHD5 transfected: sc-118168 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Lakeland, T.V., et al. 2014. Augmented expression and secretion of adipose-derived pigment epithelium-derived factor does not alter local angiogenesis or contribute to the development of systemic metabolic derangements. Am. J. Physiol. Endocrinol. Metab. 306: E1367-E1377.
2. Zhou, L., et al. 2015. Insulin resistance and white adipose tissue inflammation are uncoupled in energetically challenged Fsp27-deficient mice. Nat. Commun. 6: 5949.
3. Peng, Y., et al. 2016. ABHD5 interacts with BECN1 to regulate autophagy and tumorigenesis of colon cancer independent of PNPLA2. Autophagy 12: 2167-2182.
4. Kuo, A., et al. 2017. Lipid droplet biogenesis and function in the endothelium. Circ. Res. 120: 1289-1297.
5. Kuo, A., et al. 2018. Caveolin-1 regulates lipid droplet metabolism in endothelial cells via autocrine prostacyclin-stimulated, cAMP-mediated lipolysis. J. Biol. Chem. 293: 973-983.
6. Balatskyi, V.V., et al. 2020. β-catenin regulates cardiac energy metabolism in sedentary and trained mice. Life 10: 357.
7. Olichwier, A., et al. 2020. Interplay between thyroid hormones and stearoyl-CoA desaturase 1 in the regulation of lipid metabolism in the heart. Int. J. Mol. Sci. 22: 109.
8. Balatskyi, V.V., et al. 2021. Cardiac-specific β-catenin deletion dysregulates energetic metabolism and mitochondrial function in perinatal cardiomyocytes. Mitochondrion 60: 59-69.
9. Bednarski, T.K., et al. 2022. Alterations of lipid metabolism in the heart in spontaneously hypertensive rats precedes left ventricular hypertrophy and cardiac dysfunction. Cells 11: 3032.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.